

Tennessee Emergency Communications Board

Wireless Phase II Mapping

Minimum 911 Software & Data Requirements

Effective February 1, 2002

Pursuant to the authority granted by the Tennessee General Assembly in 1998, in passage of Public Chapter 1108 of 1998, the Tennessee Emergency Communications Board (hereafter, "ECB") shall develop and implement a plan for providing statewide wireless enhanced 911 service (hereafter, "wireless E-911 service"). Such plan shall include a schedule for the implementation, installation, operation, maintenance, and enhancement of statewide wireless E-911 service, and the funding thereof. The ECB is also authorized to act on the behalf of the state's Emergency Communications Districts (hereafter, "Districts") in implementing wireless enhanced 911 service pursuant to Docket 94-102 of the Federal Communications Commission (hereafter, "the FCC") and subsequent rulings and orders of the FCC, and other federal and state laws and regulations.

Pursuant to the authority granted by the Tennessee General Assembly in 1998, with passage of Public Chapter 1108 of 1998, the ECB hereby establishes the following standards and process for Mapping for Phase II wireless, for Districts to obtain cost recovery for expenses incurred in meeting the requirements of FCC Docket 94-102 and any subsequent rulings and orders, and in meeting the requirements of Public Chapter 1108 of 1998 of Tennessee, regarding wireless E-911 service.

Tennessee Code Annotated § 7-86-306(10) authorizes the ECB to

"...respond to requests from emergency communications districts or commercial mobile radio service providers, and subject to availability of funds, review and approve requests for reimbursements for expenditures to implement, operate, maintain, or enhance statewide wireless enhanced 911 service in conformance with any rules or orders of the federal communications commission, and other federal and state requirements that pertain to wireless enhanced 911 service...."

T.C.A. § 7-86-306(10)(A) further authorizes the ECB to

"...determine the method of reimbursement to commercial mobile radio service providers and emergency communications districts that will also ensure the long-term stability and solvency of the 911 emergency communications fund, in consultation with the comptroller of the treasury...."

Software Features

911 Functionality

- Extracts land line or wireless call data from ALI data burst and pinpoints call location on screen without user intervention. Land line calls are pinpointed by geocoding the address against street centerline or point address data. Wireless calls are pinpointed using the X, Y coordinate data from the ALI.
- Geocoding functions should be able to handle missing addresses and alternate street names.
- Original ALI data can be viewed for each call.
- Active calls are logged on-screen; user can zoom to previous call location and retrieve data while it is active.
- General location information is determined for each call – i.e. closest intersection, closest landmark. For wireless calls, a closest address will be determined using reverse geocoding.
- Latitude/longitude coordinates can be determined for any location on the map. Must be able to manually pull up a latitude/longitude and or street address.

Basic Map Functionality

- Can use as many map layers as is practical without cluttering the screen. User can turn map layers on and off as desired.
- User can interactively pan around the map and zoom in and out as desired.
- Features in map layers can be identified.
- Distance can be measured.
- Map screen can be printed.
- Software can display and use all data products developed through the State of Tennessee Base Mapping program. This includes raster data (aerial photography) as well as vector data sets (parcels, roads, water features).

Data Requirements

Minimum Map Layers

- Street centerlines with complete address attributes
- Point landmarks – churches, schools, hospitals, cemeteries, government bldgs.
- Area landmarks – parks, airports, military bases
- Fire Hydrants and Stations
- Water features
- Administrative boundaries – city, county, state
- ESN boundaries
- USGS Digital Ortho photos (available for entire state – photography from 1997/98)

Maintenance and Update

- To qualify for reimbursement, a plan for updating map layers must be submitted. This plan may include:
 - Work flow summary of how addresses are assigned & worked into an update process
 - Method of update: in-house, contracted, or purchased from data vendor
 - Personnel responsible for update
 - Minimum update cycle = quarterly

Tennessee Emergency Communications Board

Wireless Phase II Mapping

Cost Recovery Requirements

Effective February 1, 2002

1. Each Emergency Communications District (hereafter "District") must submit a sworn and true invoice for GIS mapping software, hardware, or data elements to the Tennessee Emergency Communications Board (hereafter "ECB") for reimbursement of costs. Once approved by the ECB, the District will be reimbursed for such expenses. The same processes established by the ECB for Phase I shall be used for reimbursement (cost recovery) for mapping and related expenditures.
2. Any funds provided by ECB through cost recovery shall be used by the District only for GIS-related expenses. Any funds used by the District for any other expenditure shall result in the District's wireless funds being withheld until such funds are recouped.
3. Each District shall be reimbursed up to \$50,000 for mapping- and GIS-related expenditures that meet the requirements established by the ECB.
4. Any District that has already installed a GIS mapping system that meets the ECB's minimum requirements shall also be eligible for reimbursement (cost recovery).
5. Each District shall share its base maps with each surrounding District.
6. Each District shall use the Tennessee Base Mapping Project's (TNBMP) base maps if already completed or use GDT base maps until TNBMP are completed. The only exception to this is if a District has already completed GIS mapping.
7. Each District shall be in compliance with the 911 Law, established in *Tennessee Code Annotated*, Title 7, Chapter 86, et seq., Revenue Standards established by the ECB, and all other orders and regulations of the ECB. Any District operating in violation of such laws, standards, regulations, and orders shall not be eligible for reimbursement until such time as the District is back in compliance.

Suggested Steps of Deploying GIS Mapping

Bidding and deploying a GIS Mapping System is not that difficult, but is scary to most folks, as GIS is not a familiar subject to most Emergency Communications Districts (hereafter "District") yet. With Phase II wireless, GIS mapping is a necessity, and has been deemed by the Tennessee Emergency Communications Board (hereafter "ECB") to be a necessary requirement for Phase II wireless. The ECB is committed to providing Phase II service to the citizens of Tennessee and wants to ensure that every District has the tools available to locate wireless 911 callers.

The TN Base Map Project (TNBMP) being completed by the Office of Information Resources (OIR) is in the process of providing GIS base maps to the counties in Tennessee at a reduced cost. The ECB's position is that a statewide GIS base map is the best possible solution for Phase II mapping. At the same time, it may be up to five years before some counties will be completed by the TNBMP. In conjunction with OIR and TNBMP, the ECB has determined that the best temporary solution is for each District to use GDT base maps, which are free if the District agrees to provide future updates of your county map back to GDT, to enable constant updating of the maps. This will also allow the sharing of GIS maps across the entire state.

There are many companies in Tennessee and across the nation that can help Districts create an RFP. Put out an RFP for GIS Map Display System that contains the following parts:

1. Vendor will obtain base GIS maps of your county from GDT, which are free of cost to the District or use TNBMP maps if available.
2. Vendor must correct the GDT maps centerlines and data to make them meet the ECB's requirements.
3. Include that the vendor must be able to use the new TNBMP maps and data once your county has been completed by TNBMP.
4. GIS Map Display Software must meet ECB's requirements.

Sample RFPs completed by Districts already may be made available by the ECB.

List of GIS Mapping Vendors may be created by the ECB and made available to districts.